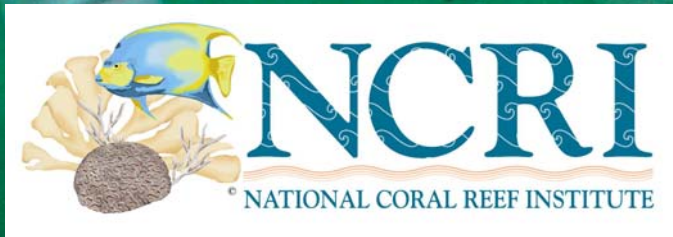
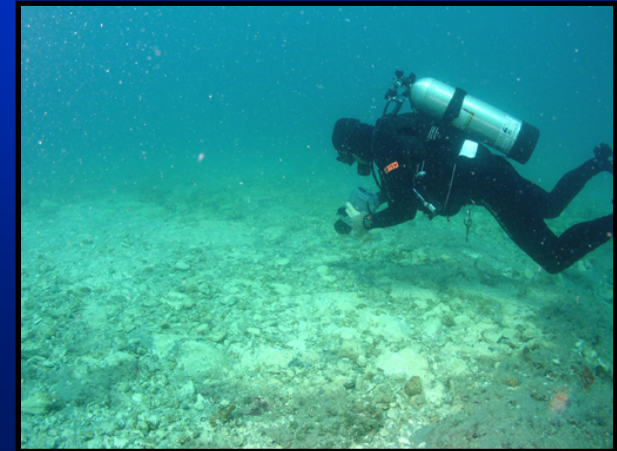


# Coral Reef Restoration and the Use of Corals of Opportunity and Coral Nurseries





# Reef Damage - Restoration





# Sources of Donor Corals





# Corals of Opportunity





# Formation of Corals of Opportunity

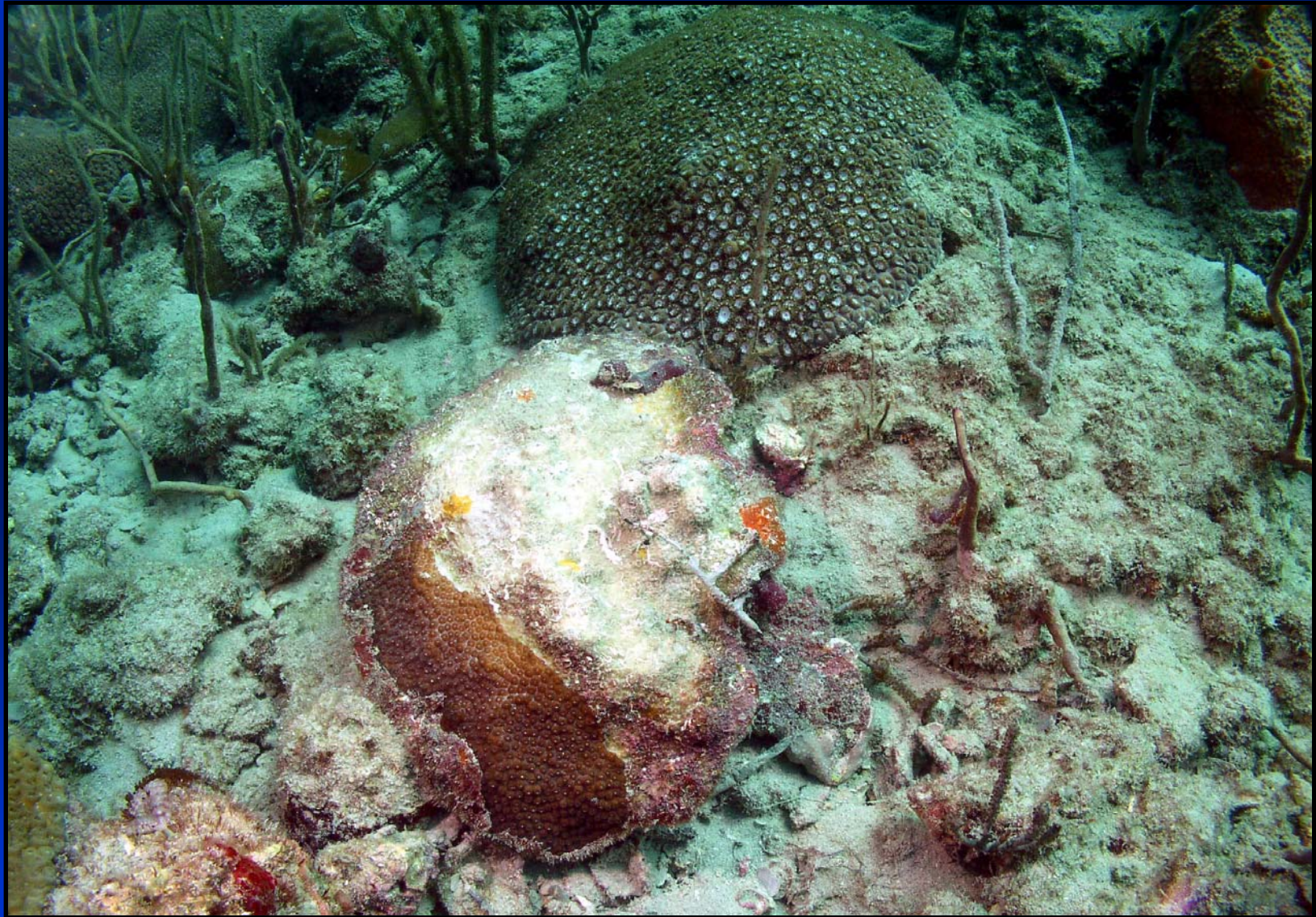


Bioerosion





# Fate of Corals of Opportunity





# Coral Nursery Project Team

- Local academia (National Coral Reef Institute of Nova Southeastern University Oceanographic Center [NSUOC/NCRI])
- Local government regulatory and management agency (Broward County Department of Planning and Environmental Protection [BC EPD])
- Local NGO (Ocean Watch Foundation [OWF])



# Project Objectives

1. To establish a cooperative effort among scientists, resource managers, and community members, who will serve as the coral nursery team
2. To create a coral nursery to rescue and cache corals of opportunity
3. To collect data to be used by resource managers on species and size specific success and growth rates of transplanted corals of opportunity
4. To use healthy and stabilized corals of opportunity as a source of transplant donors for future restoration of coral reef habitat



# Project Methods



**Dive 1 = Coral Collection**

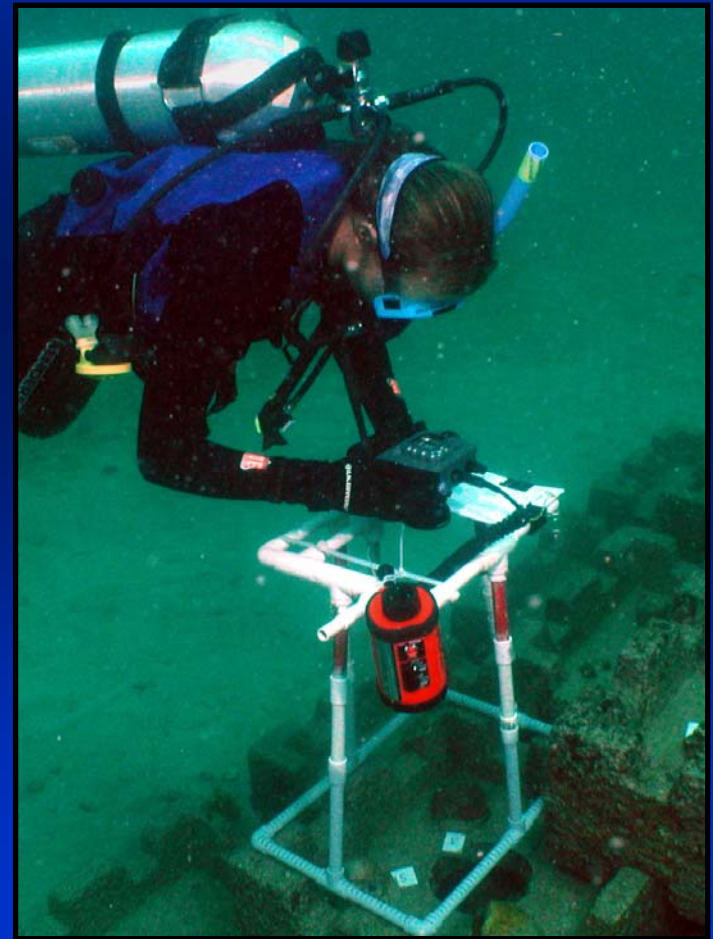




# Project Methods Continued



**Dive 2 = Transplantation &  
Data Collection**

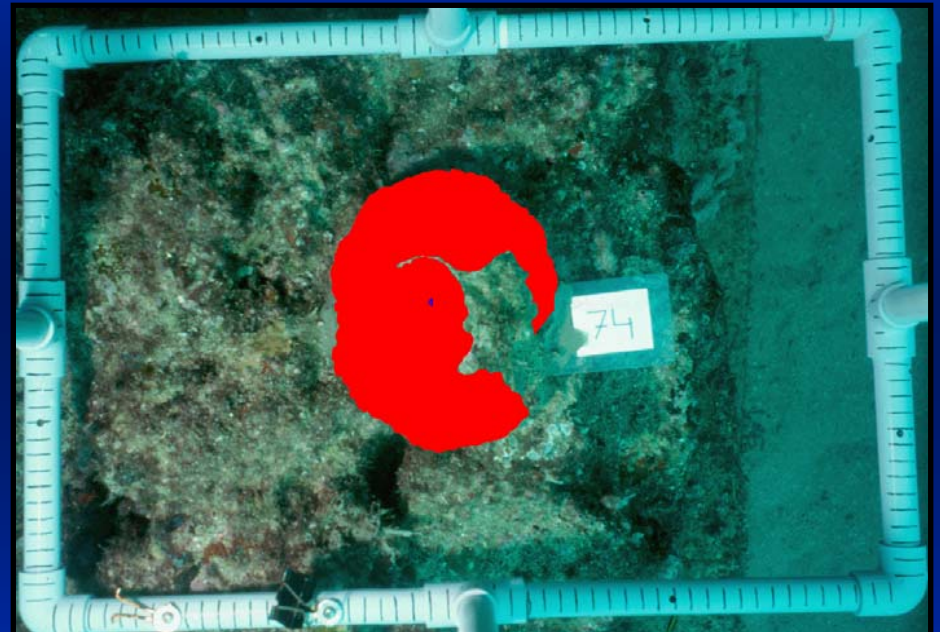




# Transplanted Coral Monitoring



Transplanted Coral # 74



Transplanted Coral # 74



# Control Coral Monitoring



Attached Control Coral # A 14



Loose Control Coral # I 16, both

As Found Initially (Top) and Upright (Bottom)



# Project Results

## Associated with Project Goals:

1. To establish a cooperative effort among scientists, resource managers, and community members, who will serve as the coral nursery team



- Members of NSUOC/NCRI, BC EPD, and OWF have participated in 20 transplantation field days, 24 monitoring field days, and 7 seminars



# Project Results Continued

## Associated with Project Goals:

2. To create a coral nursery to rescue and cache corals of opportunity



- 350 transplanted corals of opportunity have been collected representing 17 species, as well as 60 attached control and 28 loose control corals

# **Project Results Continued**

**Associated with Project Goals:**

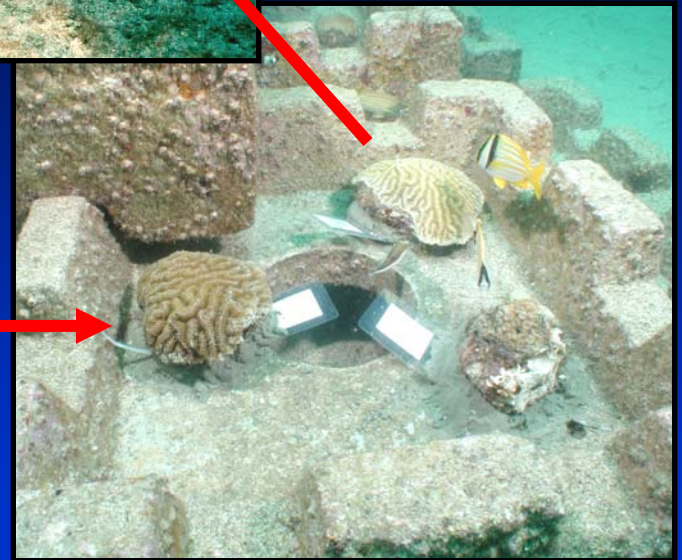
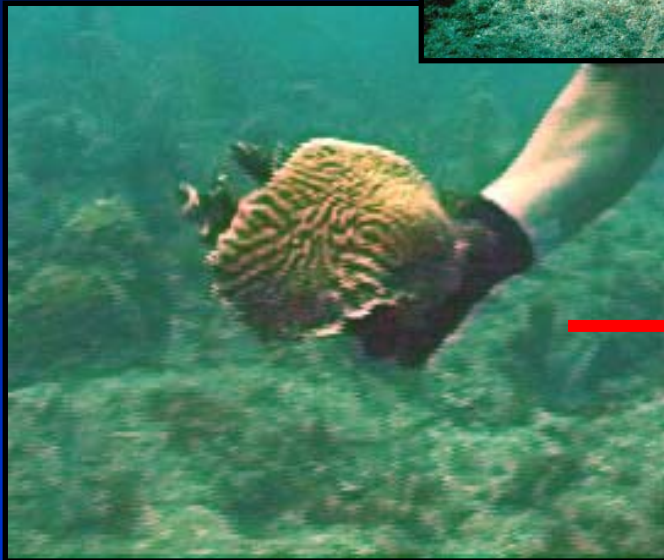
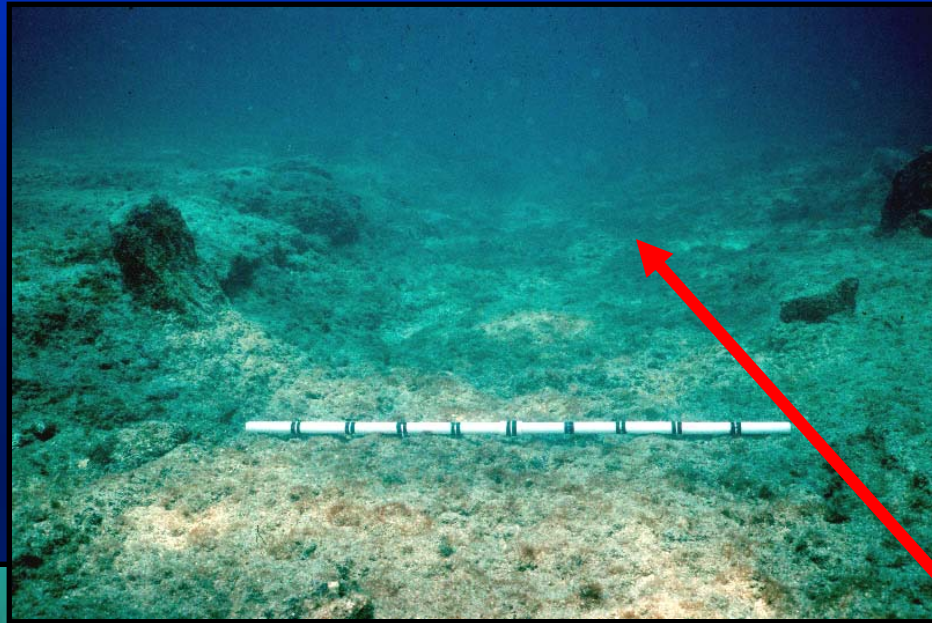
- 3. To collect data to be used by resource managers on species and size specific success and growth rates of transplanted corals of opportunity**
  - 95% survivorship of corals of opportunity**
  - 96% survivorship of attached control corals**
  - 67% survivorship of loose control corals**



# Conclusions

- The creation of an integrated project team is an effective way to both increase public awareness and accomplish the goals of the project
- The survivorship of transplanted corals of opportunity is nearly identical to that of naturally attached corals, and is higher than that of corals of opportunity left detached
- Corals of opportunity are readily available
- The species composition of corals of opportunity appears to reflect the species composition of natural corals

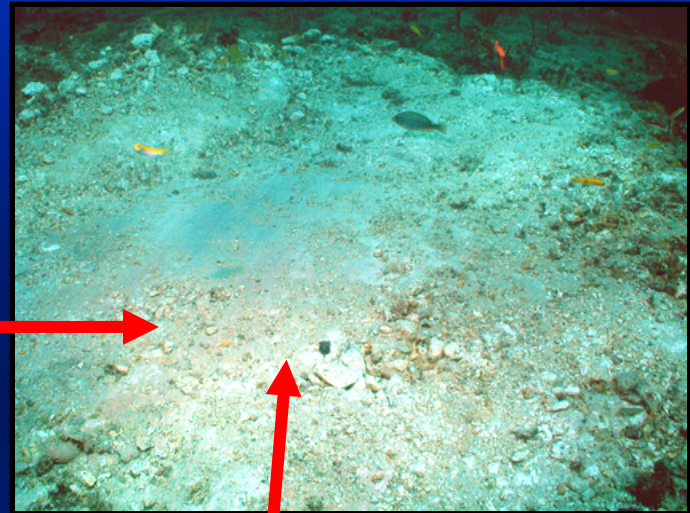
## 4. Ultimate Goal



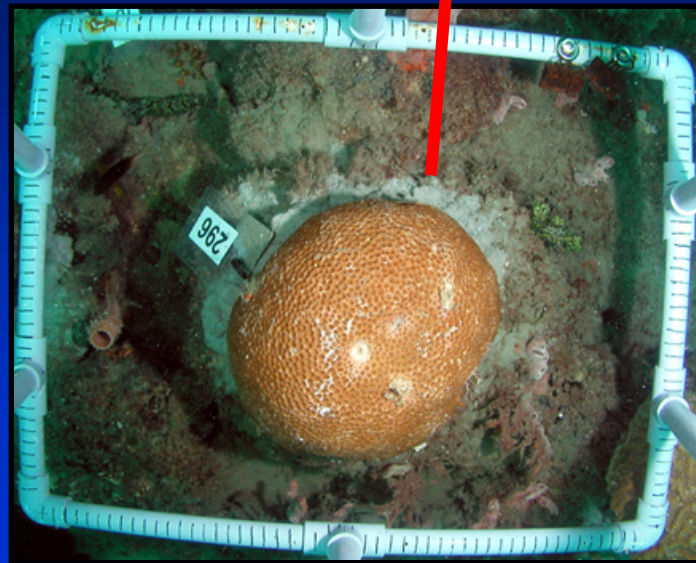




**June 2003**  
**CV Alam Senang Grounding**



**Summer 2005**  
**Working with FL FWC/FWRI**



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Department**



**OceanWatch Foundation**

